



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Claudia LANGE *et al.*

Art Unit: To Be Assigned

Appl. No.: 10/567,021

Examiner: To Be Assigned

Filed: February 3, 2006

Confirmation No. 9444

For: Method for Purifying Mesenchymal  
Stem Cells

Atty Docket. 20628.002

### Information Disclosure Statement

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The attention of the Examiner is invited to consider the references listed on the attached Form PTO-1449. Copies of the references are submitted herewith.

It is respectfully requested that the information above be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

### Certification and/or Fee

Because this Information Disclosure Statement is being submitted prior to issuance of the first action on the merits of the above-captioned application, no certification or fee is required.

Respectfully submitted,

  
David R. Marsh (Reg. No. 41,408)  
Kristan L. Lansbery (Reg. No. 53,183)

Date: July 14, 2006

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FORM PTO-1449 <u>INFORMATION DISCLOSURE STATEMENT</u>	ATTY. DOCKET NO.	APPLICATION NO.
	20628.002	10/567,021
	APPLICANTS	
	Claudia LANGE <i>et al.</i>	
FILING DATE	GROUP	
February 3, 2006	To Be Assigned	

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,197,985	03/1993	Caplan <i>et al.</i>			
	AB1	5,965,436	10/1999	Thiede <i>et al.</i>			
	AC1	2002/0045260 A1	04/2002	Hung <i>et al.</i>			

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AD1	WO 97/40137 A1	10/1997	WIPO			Yes No
	AE1	WO 01/94541 A2	12/2001	WIPO			Yes No
	AF1	WO 2005/015151 A3	02/2005	WIPO			

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AG1	Azizi <i>et al.</i> , "Engraftment and Migration of Human Bone Marrow Stromal Cells Implanted in the Brains of Albino Rats - Similarities to Astrocyte Grafts", <i>Proc. Natl. Acad. Sci. USA</i> , 95:3908-3913 (1998)
	AH1	Bruder <i>et al.</i> , "Growth Kinetics, Self-Renewal, and the Osteogenic Potential of Purified Human Mesenchymal Stem Cells During Extensive Subcultivation and Following Cryopreservation", <i>Journal of Cellular Biochemistry</i> , 64:278-294 (1997)
	AII	Colter <i>et al.</i> , "Rapid Expansion of Recycling Stem Cells in Cultures of Plastic-Adherent Cells from Human Bone Marrow", <i>PNAS</i> 97(7):3213-3218 (2000)
	AJ1	DiGirolamo <i>et al.</i> , "Propagation and Senescence of Human Marrow Stromal cells in Culture: A Simple Colony-Forming Assay Identifies Samples with the Greatest Potential to Propagate and Differentiate", <i>British Journal of Haematology</i> , 107:275-281 (1999)
	AK1	Fleming, Jr. <i>et al.</i> , "Monoclonal Antibody Against Adult Marrow-Derived Mesenchymal Stem Cells Recognizes Developing Vasculature in Embryonic Human Skin", <i>Developmental Dynamics</i> 212:119-132 (1998)
	AL1	Innes <i>et al.</i> , "Functional Testing of Hepatocytes Following Their Recovery from Cryopreservation", <i>Cryobiology</i> 25:23-30 (1988)
	AM1	Jaiswal <i>et al.</i> , "Osteogenic Differentiation of Purified, Culture-Expanded Human Mesenchymal Stem Cells In Vitro", <i>Journal of Cellular Biochemistry</i> 64:295-312 (1997)

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449  
INFORMATION DISCLOSURE STATEMENT

		ATTY. DOCKET NO. 20628.002	APPLICATION NO. 10/567,021
APPLICANTS Claudia LANGE et al.			
FILING DATE February 3, 2006		GROUP To Be Assigned	
AN1	Kaneko et al., "Separation of Human X- and Y-Bearing Sperm Using Percoll Density Gradient Centrifugation", <i>Fertility and Sterility</i> 40(5):661-665 (1983)		
AO1	Koc et al., "Mesencymal Stem Cells: Allogeneic Mesenchymal Stem Cell Infusion for Treatment of Metachromatic Leukodystrophy (MLD) and Hurler Syndrome (MPS-IH)", <i>Bone Marrow Transplantation</i> 30:215-222 (2002)		
AP1	Lennon et al., "Human and Animal Mesenchymal Progenitor Cells From Bone Marrow: Identification of Serum for Optimal Selection and Proliferation", <i>In Vitro Cell. Dev. Biol. - Animal</i> 32:602-611 (1996)		
AQ1	Liechty et al., "Human Mesenchymal Stem Cells Engraft and Demonstrate Site-Specific Differentiation After In Utero Transplantation in Sheep", <i>Nature Medicine</i> 6(11):1282-1286 (2000)		
AR1	Mackay et al., "Chondrogenic Differentiation of Cultured Human Mesenchymal Stem Cells from Marrow", <i>Tissue Engineering</i> 4(4): 415-428 (1998)		
AS1	Majumdar et al., "Phenotypic and Functional Comparison of Cultures of Marrow-Derived Mesenchymal Stem Cells (MSCs) and Stromal Cells", <i>Journal of Cellular Physiology</i> , 176:57-66 (1998)		
AT1	Mosca et al., "Mesenchymal Stem Cells as Vehicles for Gene Delivery", <i>Clinical Orthopaedics and Related Research</i> , 379S:S71-S90 (2000)		
AU1	Muraglia et al., "Clonal Mesenchymal Progenitors from Human Bone Marrow Differentiate In Vitro According to a Hierarchical Model", <i>Journal of Cell Science</i> 113:1161-1166 (2000)		
AV1	"Percoll: Methodology and Applications" <i>Amersham Biosciences</i> (2001) 84 pages, see <a href="http://www.cellseparation.nu.media/18-11405-69AC.pdf">www.cellseparation.nu.media/18-11405-69AC.pdf</a>		
AW1	Phinney et al., "Donor Variation in the Growth Properties and Osteogenic Potential of Human Marrow Stromal Cells", <i>Journal of Cellular Biochemistry</i> 75:424-436 (1999)		
AX1	Pittenger et al., "Multilineage Potential of Adult Human Mesenchymal Stem Cells", <i>Science</i> 284:143-147 (1999)		
AY1	Quirici et al., "Isolation of Bone Marrow Mesenchymal Stem Cells by Anti-Nerve Growth Factor Receptor Antibodies", <i>Experimental Hematology</i> 30:783-791 (2002)		

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		APPLICANTS Claudia LANGE <i>et al.</i>	
		FILING DATE February 3, 2006	GROUP To Be Assigned
	AZ1	Shakibaei <i>et al.</i> , "Differentiation of Mesenchymal Limb Bud Cells to Chondrocytes in Alginate Beads", <i>Cell Biology International</i> 21(2):75-86 (1997)	
	AA2	Toma <i>et al.</i> , "Human Mesenchymal Stem Cells Differentiate to a Cardiomyocyte Phenotype in the Adult Murine Heart", <i>Circulation</i> 105:93-98 (2002)	

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IFW

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July 14, 2006

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: U.S. Application No. 10/567,021  
Filed: February 3, 2006  
Title: Method for Purifying Mesenchymal Stem Cells  
Applicants: Claudia LANGE *et al.*  
Atty. Docket: 20628.002

Sir:

The following documents are forwarded herewith for appropriate action by the U.S. Patent and Trademark Office (PTO):

1. an Information Disclosure Statement;
2. a Form PTO-1449 (listing and supplying 27 references); and
3. a return postcard.

Please stamp the attached postcard with the filing date of these documents and return it to our courier.

In the event that extensions of time beyond those petitioned for herewith are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned. Applicants do not believe any fees are due in conjunction with this filing. However, if any additional fees are required in the present application, including any fees for extensions of time, then the Commissioner is hereby authorized to charge such fees to Arnold & Porter LLP Deposit Account No. 50-2387 referencing matter number 20628.002. A duplicate copy of this letter is enclosed.

Respectfully submitted,

David R. Marsh (Reg. No. 41,408)  
Kristan L. Lansbery (Reg. No. 53,183)

Enclosures